

**REMARKS**

Claims 9 and 21 have been amended. No claims have been canceled. No new claims have been added. Claims 9-26 are pending.

The specification stands object to, in relationship to the subject matter claimed in claims 18-20, 24, and 25. The Office Action states that while the system shown in Fig. 3 inherently uses digital memory, there is no reference in the specification to the use of the digital memory. It should be noted that the systems shown in Figs. 2 and 3 each include at least one "digital memory array" and thus the application explicitly teaches the use of digital memories. That is, the application as filed does more than "inherently" disclose the use of digital memories. The instant amendment includes amendments to the specification and is being filed concurrently with a proposed drawing correction. The amendments to the specification, and the proposed drawing correction correlates the description of the digital memories to the illustrations of the digital memories. The examiner is requested to approve the proposed drawing correction.

Claims 9-17 and 22-23 stand rejected under 35 U.S.C. § 112, first paragraph, as allegedly failing to comply with the written description requirement. The Office Action state that the limitation "a pixel sensor that stores each sampled value in 'at least one' of a plurality of digital memory arrays" is not in the written description. Claims 10-17 and 22-23 stand rejected as being dependent upon claim 9. Claim 9 has been amended to recite storing each sample value in one of said digital memory arrays. Accordingly, the rejection to claims 9-17 and 22-23 under 35 U.S.C. § 112, first paragraph, should be withdrawn.

Claims 9-10, 15-22, 24, and 26 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Merrill (U.S. Patent No. 5,892,541) in view of Fossum (U.S. Patent

No. 5,665,959) and Gray (U.S. Patent No. 5,856,829). Claim 11 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Merrill in view of Fossum, Gray, and Mandl (U.S. Patent No. 5,248,971). Claims 12-14 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Merrill in view of Fossum, Gray, and Lee (U.S. Patent No. 6,466,265). Claims 23 and 25 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Merrill in view of Fossum, Gray, and Berger (U.S. Patent No. 4,453,177). These rejections are respectfully traversed.

Claims 9 and 21, recite, *inter alia*, “wherein each pixel in said active pixel image sensor array is sampled multiple times during an integration period and each sampled value is stored in one of said digital memory arrays.”

Claim 18, recites, *inter alia*, “sampling and converting said analog image information for a first pixel of said active pixel image sensor array plurality of times during a desired integration period to produce a first plurality of digital values; storing said first plurality of digital values in a first digital memory.”

Merrill is directed to an imaging system and method for increasing the dynamic range of pixels in an imaging system. More specifically, Merrill discloses reading each pixel an imaging system multiple times during an integration period. Significantly, while each pixel is read (i.e., sampled) multiple times, the digital data corresponding to the voltage level read from the pixel is not necessarily stored. Referring now to Fig. 5, it can be seen that if the digital value (as seen in the graphical representation “MEMORY IMAGE”) of the pixel voltage level is below a predetermined threshold, the digital value is unused, and not stored, as there is no change in the graphical representation “MEMORY IMAGE”. Merrill therefore discloses that while a pixel may be read multiple times during an integration period, the value read from the pixel may not be used. See column 7, lines 40-61. Further, as can be seen

in the "MEMORY IMAGE" of Fig. 5, in instances where the voltage level in the pixel exceeds the predetermined threshold, the "MEMORY IMAGE" increases in magnitude as a function of the voltage of the pixel. That is, the "MEMORY IMAGE" does not store a sample value, but rather, it stores an accumulated sum of sample values which exceed the predetermined threshold.

For these reason, Merrill cannot be said to disclose or suggest any imaging system which during an integration period samples a pixel plural times and stores in a memory each sample value, as recited in the above quoted portions of the independent claims.

The Office Action additionally cites to Fossum, Gray, Mandl, Lee, and Berger. However, these references also do not disclose or suggest, whether individually, or in combination, the above recited features of the independent claims.

Accordingly, independent claims 9, 18, and 21 are believed to be allowable. The depending claims, i.e., claims 10-17, 19-20, 22, 24-26 are also believed to be allowable for at least the same reasons as the independent claims.

In view of the above, each of the presently pending claims in this application is believed to be in immediate condition for allowance. Accordingly, the Examiner is respectfully requested to pass this application to issue.

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Respectfully submitted,

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